COMBINED BEAMFORMING-DIVERSITY WIRELESS FADING CHANNEL DEMODULATOR USING ADAPTIVE SUB-ARRAY GROUP ANTENNAS, SIGNAL RECEIVING SYSTEM AND METHOD FOR MOBILE COMMUNICATIONS

ABSTRACT OF THE DISCLOSURE

A wireless fading-channel demodulator using adaptive sub-array group antennas to combine beamforming and diversity gain, a signal receiving system and method for mobile communications using the wireless fading-channel demodulator. The wireless fading-channel demodulator eliminates interference signals arriving at different directions-of-arrival (DOAs) from undesired mobile stations (users) and provides strong immunity to fading. A high signal and interference-to-noise ratio SINR can be achieved even when the number of antennas is smaller than the number of mobile stations (users). The wireless fading channel modulator can be applied to any system receiving mobile communication information, such as a base station, a mobile station, etc.